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ABSTRACT

This report consists of six papers prepared for the Seventh Annual Conference on Strategies for School Security, which was held January 21-23, 1976 in Knoxville, Tennessee. The papers include "School Security--A Growing Problem," by Charles Trotter, Jr.; "School Violence and Vandalism," by Joseph Grealy; "Identifying Security Problems and Needs," by James O'Neil; "Premise Protection Planning," by Ralph Ward; "The Architect and Security," by Walter Strobl; and "School Security System Planning," by Joseph Grealy. (JG)

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STRATEGIES FOR SCHOOL SECURITY

A Report From

The School Planning Laboratory
College of Education
The University of Tennessee

EA 010 262

STRATEGIES FOR SCHOOL SECURITY
Seventh Annual Conference

January 21, 1976 Knoxville, Tennessee
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January 23, 1976 Nashville, Tennessee

The School Planning Laboratory
College of Education
University of Tennessee, Knoxville

in cooperation with

Tennessee State Department of Education

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SCHOOL SECURITY - A GROWING PROBLEM

Since the 1960's, vandalism to schools has been an increasing problem for school districts all over the nation, regardless of type, size, or location. Thus far, no adequate reporting systems for measuring the cost of vandalism have been developed. However, conservative estimates place the annual cost of vandalism at about $600 million nationwide. The impact of the cost of vandalism can readily be seen when it is realized that this sum is about equal to the amount spent on textbooks.

School officials are, for the most part, unable to explain or take effective measures to deal with the problem. Numerous studies have been conducted to determine causes of school vandalism, yet the reasons for this phenomenon are still not clear. In fact, it seems that there is no logic to most acts of vandalism. Following $800 in damages to the cafeteria and administrative area of his high school, one East Tennessee principal was quoted as saying:

> *The whole thing has a great deal of non-logic to it. Either the people were extremely high on something or they didn't know the high school very well, or they were just playing games. They did things that were illogical. If they were there to get money or do real damage, a different route would have been more successful.*

School vandalism is not always the result of deliberate destruction by youngsters intent on venting hostilities against the schools. Active children through misuse may unconsciously damage school facilities which are poorly designed or constructed. Frequently, damage of this type is considered to be the same as malicious vandalism.

The effects of vandalism are far-reaching and costly. In the words of one superintendent:

> *The effects of these losses on the education program are tremendous. Taxpayers, already overburdened, are reluctant to approve much needed board measures and tax overrides involving school financing when, almost daily, the media report destruction of school property. Teachers facing demolished classrooms and stolen or damaged property are demoralized and unable to teach effectively. The turnover of teachers in these schools is far greater than in those where incidents do not occur, and recruitment of qualified teaching personnel to fill these assignments is much more difficult, further contributing to the task of trying to maintain meaningful educational programs.*

Tennessee has not escaped the national trends. In the current school year, instances of vandalism recorded in Tennessee were numerous, including acts of arson, glass breakage, defacement of buildings and contents, and burglary. One act of arson on September 9, 1975 alone resulted in damages estimated at $100,000 for a high school in Middle Tennessee. It seems clear that the time has come for Tennessee school districts and others in the Southeastern region to focus attention on school security problems and take immediate action to avoid the more serious problems now being faced in other areas of the nation.

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SCHOOL VIOLENCE AND VANDALISM

THE PROBLEM

Legislators, educators and the news media now describe the problem of school violence and vandalism as a disastrous crisis which requires a complete reassessment of our national educational goals and a redirection of our resources. What colleges and universities had to contend with in the mid-sixties, the public schools seem to have inherited in the early seventies. Problems in elementary and secondary school systems appear to be more serious and costly. Unlike the colleges, which are now relatively tranquil, the public schools will probably be concerned with the problem for a long time to come.

In April of 1975, the Senate Subcommittee to Investigate Juvenile Delinquency released the report of its survey on school crime. That report produced a ledger of violence confronting our schools reading like a casualty list from a war zone or vice squad annual report, according to its chairman, Senator Birch Bayh of Indiana. In explaining the impact of violence and vandalism on education, Senator Bayh said: "Far too often, youngsters arriving at our public schools today are faced with an environment dominated by fear, destruction, and chaos rather than reading, writing and arithmetic." Teachers quickly discover "that the primary concern in many modern American schools is no longer education but preservation." In some areas it could be survival since the subcommittee also concluded from the survey that between 1970 and 1973:

School-related homicides increased by 18.5%
Robberies increased by 36.7%
Rapes-attempted rapes increased by 40.1%
Assaults on students increased by 85.3%
Assaults on teachers increased by 77.4%
Burglaries of buildings increased by 11.8%
Drug and alcohol offenses on school property increased by 37.5%
Dropouts increased by 11.7%
The number of weapons confiscated by school authorities increased by 54.5%

On April 16, 1975, Senator Bayh held his first committee hearing on school violence and vandalism in Washington, D.C. Included were representatives of school districts, school associations, and teacher's associations. The hearing received tremendous coverage through the news media which brought this shocking testimony to the attention of people throughout the country via television, radio and the press. On the following day, the Senator introduced a Bill in the Congress known as the Juvenile Delinquency in the Schools Act of 1975. Actually the testimony leading to introduction of this Bill was merely a reflection of the national crime picture. The FBI Uniform Crime Report for the year 1974, as compared to 1973, reflected that serious crime increased by seventeen percent, violent crimes were up eleven percent; forcible rape and aggravated assault each rose nine percent; murder went up five percent; property crimes including larceny and theft increased twenty percent while burglary went up by seventeen percent. Teenagers were arrested for nearly one-third of the ten million crimes reported to the police, although persons ten to seventeen years of age accounted for only sixteen percent of the nation's population. For burglaries, motor vehicle thefts and larcenies about half of those arrested were teenagers.

On December 1, 1975, Bob Wildrich in his syndicated column, reacting to the annual FBI Crime report, stated that anyone who didn't get sick reading the 1974 national crime statistics has either a strong stomach or a weak mind. He concluded that the American system of criminal justice, as applied to our young people, is a failure and damned near a national disgrace.

A good portion of these serious crimes is taking place right in our schools. Not just any one particular area but all over the country, both in urban and suburban areas. Studies and projections indicated the total money losses due to vandalism, burglary, theft and arson in the schools during 1975 as close to $600,000,000, more money than it cost to supply all the textbooks to each of the more than 16,000 school districts in the United States. Arson alone accounted for over $100,000,000, of the cost.

If there are any doubts as to juvenile involvement they are removed by the initial and primary finding of Senator Bayh's Subcommittee which found that juveniles accounted for almost half the arrests for serious crimes in the United States. Where are these juveniles each day, including the delinquents? They are in our elementary and secondary schools.

Mainly due to the Gault decision only a small percentage of juveniles arrested by law enforcement agencies are ever formally charged or brought before a judge. The majority are referred to juvenile authorities, who informally interview them and release them to their parents. Last year in the state of Florida 127,000 juveniles were arrested and of that number 27,000 were formally charged or remanded to court. What happened to the other 100,000? They were released immediately and sent back to school.

PHYSICAL ASSAULTS

What are some of the things our school personnel must contend with? Murder and assaults? Yes!

Last May a seventeen year old Largo High student was shot to death in the school parking lot. His wallet and other

property were taken and four teenaged suspects were arrested the following day.

In Richmond, Virginia, a sixteen year old boy was killed and a fourteen year old girl wounded when they were caught in the crossfire of a gun battle between two youths in a corridor at Armstrong High School. The boy was struck by a bullet in the back of the neck and was dead when police officers arrived at the school. The girl was struck in the left leg and was not seriously wounded. Witnesses stated that two youths, believed to be students, had been embroiled in an argument just inside the entrance to the school when suddenly they drew pistols and began firing in the school corridor as other students were going to their classes.

A seventeen year old honor student, preparing to enter Claremont College on a full scholarship, was attacked and stabbed to death by a group of six youths at John Glenn High School in Norwalk, California. Other students and school personnel came to his aid when they saw him being beaten in front of the school cafeteria, but they were unable to prevent his being knifed in the heart. He was a member of the school soccer team which was scheduled to play the day of his death. The game was cancelled.

Two Yorba Junior High School ninth grade students in Orange, California, were gunned down by a classmate who shot one in the chest and the other in the buttocks with a .44 caliber magnum revolver. The students were reportedly having an argument when the assailant pulled a gun from a western holster hung on his shoulder and fired three shots, two of which hit the boys.

An administrative assistant at Barberton High School, outside of Cleveland, Ohio, was shot and seriously wounded by a seventeen year old student whom he was reprimanding for repeated absences. The student reportedly drew a gun while talking with the administrator and then fired three times before fleeing from the school. The official was in serious condition as a result of two bullet wounds in his chest.

In one day in Dallas, Texas, a fifteen year old Rusk Junior High School student lay near death in Parkland Hospital after he was stabbed several times in the chest during a scuffle in a school corridor, a shop instructor at Cary Junior High School was clubbed over the head with a mallet by a student; and a student at Sequoyah Middle School was stabbed in the back by a thirteen year old student after an argument on the school's playground.

At Locke High School in Los Angeles, gang warfare broke out during an afternoon dance in the multipurpose school building. Steel natural combs, chains, bricks, concrete blocks, walking canes and sticks were used as weapons. The fighting spread into the surrounding community where beatings and firing into homes and automobiles were reported. One death resulted. Similar activity continued at the school, leading one administrator to comment that the school officials found themselves using methods almost akin to gestapo tactics to deal with the situation.

In Pensacola, Florida, a fifteen year old girl was abducted at gunpoint from a dance at the Pensacola High School by a man who took her to the school parking lot and raped her. The girl related that the young man, who was in his early twenties, invited her to dance. As they began dancing he pulled out a gun and forced her to go with him to the parking lot.

VANDALISM OF FACILITIES

In addition to our primary concern, the safety and security of our students and school personnel, the safety of school facilities and equipment is also in danger.

The primary function of any school system cannot be carried out without insuring that the facilities are safe from theft and destruction.

There is a bright yellow cardboard chart near the window of Marc Haverson's classroom at the Mann School in Philadelphia that bears the unlikely inscription: "Our gerbil diary." Haverson's fifth graders used it to record the day-to-day activities of the class' three pet rodents ... what they ate, how they played, how much they had grown. There is no entry for May 25th. That is the day the gerbils were killed. In a grisly act of school vandalism, scores of pets at the elementary school in Wynnefield were killed by vandals who broke into the school over the Memorial Day weekend. They killed all the school pets, including gerbils, hamsters, goldfish and birds, in more than twenty-five of the forty classrooms. They uprooted dozens of house plants, rifled teachers' desks, ransacked supply closets, destroyed a television set, broke windows and stole thirty cassette tape recorders, an adding machine and thirty-five dollars in cash. "Coming to school isn't going to be as much fun anymore", said ten year old Stacey Wilson who concluded the vandals were "jealous, cruel people."

About one hundred parent volunteers took part in "Operation Facelift" at the Wedgewood School in Seattle, Washington. Budget cuts had prevented the painting of the school so the PTA, mostly mothers, led the drive to do it themselves. The school district supplied the paint while the parents supplied the labor. The job, six volunteers to a shift, two shifts a day, began on June 5th. They painted the

hallways an appealing vanilla and the wall next to each of the twenty-two classrooms with colorful floor-to-ceiling room numbers. They also painted the office and teachers' lounge. Then, sometime during the night of the 26th, young hoodlums broke into the school. In minutes they ruined many hours of volunteer work. They used mops to smear the hallway floor with paint and paint thinner. They spattered paint on lockers. They sprayed the floors with fire extinguishers. They took petty cash from a secretary's desk and candy from the teachers' lounge where they also dumped coffee grounds on the floor.

During one evening in Tacoma, Washington, vandals caused thousands of dollars worth of damage to three schools. In Lincoln High School candle-burning vandals broke into twenty rooms, rifled desks, splattered ink on an art display and littered the office with paper and debris. Fire later broke out, contributing to approximately $10,000 damage. The new Whitman School was an ink-stained, equipment-strewn mess and the Stanley School had two storerooms ransacked, leaving the contents in mountains on the floor.

A dedicated teacher of La Jolla High School, visiting her school one Sunday came upon teenaged vandals who fled before the police arrived. The vandals broke as many things as they could get their hands on. They knocked typewriters off desks, sprayed contents of fire extinguishers on interiors and emptied papers and contents of desks.

A thirteen year old schoolboy who "screamed like a panther and fought like a tiger" was charged in Atlanta, Georgia, with six counts of school burglary and one count of arson. A student at Central Junior High, the boy was apprehended on his sixth school raid. He had stolen and damaged equipment and set a fire in one of the schools that had caused considerable damage.

ARSON

Arson, by far, is the most damaging, expensive and disheartening crime occurring in our schools. Six years ago, 13,200 school fires resulted in damages of fifty-two million dollars. 20,500 fires in 1971 resulted in eighty-seven million dollars in damages. The National Fire Protection Association states that arson caused eight hundred and forty-five million dollars in damage in 1973 and estimates are that the damage for 1974 may be more than one billion dollars. The schools will account for over a million dollars of that cost. In the Fort Lauderdale school system, during the first six months of the past school year, damages due to school arson increased 94% over the previous year.

This past June in Miami, Florida, a two hundred thousand dollar planetarium at the Hialeah Miami Lakes Senior High School was destroyed by arson. Outraged students described it as "disgusting, shameful and shocking." It took forty firemen to put out the flames that had reportedly been set by sprayed flammable liquid. Planetarium Director Paul Simonsen sat, head in hands, around the corner from the burned out projection room and said, "That's three and a half years' work down the drain." The projected fire loss for schools this past school years is over a hundred million dollars. This would have provided a lot of quality education for many children.

Arson was ruled the definite cause of a fire Christmas Eve which caused two hundred fifty thousand dollars damage to Warrington Elementary School in Pensacola, Florida. Practically every room on the bottom floor was vandalized causing students to go on double sessions upon their return from the Christmas vacation.

Six youths, ranging in age from six to eleven, set fire to the Deerfield Park Elementary School in Deerfield Beach, Florida, causing two hundred thousand dollars in damage. The boys who could give no reason for setting the fire, also admitted setting a previous fire at the school which resulted in more than one hundred thousand dollars in damages.

A four-alarm fire, described as the worst in the history of Irving, Texas, gutted the structure of Bowie Junior High School causing an estimated damage of seven hundred fifty thousand dollars. An eighteen year old former student, and his two younger brothers, were later charged with arson. The fire was reportedly set to cover up their breaking into the school.

Flames shot up from forty to fifty feet in a fire that did four hundred thousand dollars in damage to an intermediate school in Mission Viejo, California. More than forty firemen fought the blaze. Eight rooms were completely destroyed. Firemen stated that the fire was of a "suspicious origin." The school principal, Donald C. Hickman, announced that school would continue but that the damaged classrooms would pose a problem. Bystanders, including some of the school students helped firemen salvage some school equipment in an attempt to lessen the damage.

Eunice Wyatt wept outside Becker School in Austin, Texas, where suspected arson caused eighty thousand dollars worth of damage. For Mrs. Wyatt, a twenty-three year veteran, and her twenty-five first graders it meant another classroom had to be found. She stated that it was not closing the classroom that bothered her because she could teach anywhere, if necessary, even on the steps. Her concern was the children. As she put her arms around one of her students, she commented "we'll get us another room."

Four strategically placed bombs ignited a fire that raged out of control at Truman Junior High School causing an estimated two hundred sixty thousand dollars worth of damage. Administrative offices, a science laboratory and several classrooms were destroyed causing classes to be cancelled. Two junior high students were arrested and charged with the arson. They claimed they wanted to get even with the principal and did it on a dare.

A million dollar fire virtually destroyed the Lafayette, Louisiana High School. It was the second fire at the school in a little over a month. Some fifty firemen fought the blaze for over four hours before bringing it under control.

Last year, the library facilities of the Newport High School in Bellevue, Washington, were completely destroyed by fire, causing over a million dollars worth of damage but ... worse than that ... every book in the library was destroyed. As in most cases, the arsonists were apprehended but that in no way minimized the loss and frustrations caused by their act.

The cost of vandalism, theft and arson cannot be measured in dollars and cents alone. The loss of the use of the schools and equipment is not only depressing and frustrating but it places a tremendous strain on the princi-

pals and teachers who must attempt to function without them. They say concentration is the art of learning. How can anyone generate concentration under such disastrous circumstances?

BUSING

If one ever feels like accepting a real challenge, he should sign up to drive a bus. However, one should not apply unless he is prepared to accept abuse, threats, assaults, have his ancestry questioned, be stoned, fired on and even captured. One could have said in the past that no drivers had been hijacked but the Boston situation has changed that fact. School bus drivers are the unsung heroes in today's education and there is no doubt that some of them should be receiving combat pay. The late Dizzy Dean claimed he was a great pitcher because he developed his arm as a youngster by throwing rocks at trees on his way home from school. In that case the big leagues have some great prospects coming up, but unfortunately their targets are now the bus and the driver.

BOMBINGS

The FBI, in cooperation with the National Bomb Data Center, prepares an annual bomb summary made up of a comprehensive report of incidents involving explosive and incendiary devices in the nation. The 1974 summary released in June, 1975 reported a total of 2,044 bombings involving 2,539 devices. Fifty-one percent or 1,307 were explosive in nature, while forty-nine percent or 1,232 were incendiary. Twenty-four deaths and 207 injuries were reported to have occurred as a result of the bombing incidents. One hundred and sixty-six injuries and twenty-two deaths occurred in connection with explosive incidents and forty-one injuries and two deaths from incendiary incidents.

The total value of property damaged due to bombing was $9,866,563. Explosive bombs resulted in $6,653,434 in damages while incendiary devices caused $3,233,129 in losses. Of the twenty-three target areas surveyed, school facilities ranked fourth in the number of actual and attempted bombings. This number was two and a half times as many attempts as those which occurred at police and fire departments. Most of the bombing incidents against schools were made by youths and motivated by malicious and destructive feelings against the establishment. In Pontiac, Michigan, six explosive devices virtually destroyed ten school buses at a loss estimated to be 150 thousand dollars.

In Oakland, California, a bomb was disarmed five minutes before it was set to explode. The device, which was constructed of three sticks of dynamite, was discovered between two portable classrooms at a junior high school while classes were in session.

In West Palm Beach, Florida, a school superintendent's car was destroyed when a time explosive device detonated under his car. Fortunately he was attending a school board meeting at the time and was not injured.

Two adjacent schools in Woburn, Massachusetts, were damaged by firebombs which were tossed into them. The damage to the schools was over 100 thousand dollars.

Three teenaged boys were arrested by federal agents in Seattle, Washington, in connection with their bombing of a high school and a community college. Pipe bombs were exploded at each facility and a federal agent summarized the motive for the explosions by stating "it was a challenge of who could do the most destruction to available targets." The youths were described as being from good middle class to upper class families while one of them was listed as a high school drop-out.

Another serious and costly problem is the telephone bomb threat. In addition to the disruption of school, it is estimated that with the necessary involvement of police and fire personnel, a typical telephoned bomb threat costs between two and three thousand dollars. During 1973, 6,689 telephoned bomb threats represented a cost of between fifteen and twenty million dollars. Again, quality education was the loser.

DRUG ABUSE

Drug abuse is, and should be, a continuous concern of parents and educators. A study by a house subcommittee back in 1970, on drugs in our schools, concluded that drug abuse in schools had become so extensive and pervasive that it was only the uniquely-gifted and self-possessed child who was capable of avoiding involvement in some form of drug abuse.

The December, 1975, issue of *Criminal Justice Digest* reported that in Chicago thousands of children, some as young as eight, were using drugs, buying and selling them in school corridors, washrooms and playgrounds. Children were reported to come to school already high and get even higher while there. In addition to the three R's, these students have first hand knowledge about LSD, PCP, CMT, ZNA, Pot and Angel Dust.

The story of illicit drug use by school-aged children in the Chicago area is not found in statistics because Cook County does not keep them. It is found in the schools where school personnel deal with it daily, and where fellow students willingly supply drugs to other students in order to support their own habits. For example, as John became more dependent on drugs, his contact with various suppliers broadened, and John began delivering

drugs to other users. He said he was like a middle-man. He would get fifteen or twenty dollars just for delivering "stuff." Or he might buy fifteen or twenty downers (barbiturates) for maybe fifteen or twenty dollars and sell five or six of them for ten dollars. Restaurants, railway stations, parks, schools and the homes of fellow students served as rendezvous points where user and seller met.

A thirteen year old girl and her twelve year old sister were caught selling marijuana in their school. Their parents were the suppliers, and were quite well off, living from the profits of the grass sold by their children to their classmates.

In October, 1975, the government reported that drug experimentation was increasing among American youth, and that more whites and females were joining the trend. Four surveys, released by the National Institute on Drug Abuse, disclosed: that between 1969 and 1975 male high school seniors had a three-fold increase in barbiturate use; almost fourty five percent of the senior boys said they had experimented with marijuana compared with only thirteen percent five years earlier; among youths aged twelve to seventeen years, marijuana experimentation had increased markedly from fourteen percent in 1972 to twenty three percent in 1974; that while young adult males have historically had more experience with drugs than females, the difference is now disappearing among the teenagers.

CONCLUSION

These are just some of the many serious and costly problems facing school systems throughout the country. Educators have not been trained to deal with such criminal activity and as a result school systems are generally not properly aware of such behavior or what to do about it. School systems beset with such problems must be furnished with qualified people who can organize a system which can guarantee the safety and security of school students, staff, facilities, and equipment. The system must be a community effort involving the school, the students, parents, law enforcement, juvenile authorities, the judiciary, and other agencies and individuals interested in education for the youth rather than having them become a part of the criminal justice system.

No principal or teacher wants to remove a student from school, but, in many instances if learning is to continue, the disruptive student must be removed, usually by suspension. He is then placed on the street, getting farther behind in school, where he will inevitably become a police problem. We all know the cost of incarcerating a child as compared to educating him. By educating him, he benefits and the community benefits. He should remain in school but some alternative program must be provided—an alternative which will identify his problem, whether it be physical, psychological, curricular or environmental, so that the problem can be treated to get him back in the mainstream with his fellow students.

One school superintendent put it very well earlier this year when he referred to the fact that school violence and vandalism seriously threatens to hamper the ability of educational systems to carry out their primary function. His suggestions were: (1) A variety of special training programs for teachers and staff; (2) Establishment of a well-trained and organized security force; (3) Cooperative efforts with law enforcement to develop a positive, preventive program to reduce violence and vandalism; (4) A workable drug abuse program; (5) A district-wide code of conduct to be distributed to all students and parents; (6) A relevant, comprehensive instructional program designed to meet the needs of all students.

There is always the problem of financing and school security is rarely a top priority item in a school budget. A good school security program should actually more than pay for itself through savings from reduced costs of vandalism, theft and arson. Other sources are funding through the state legislature as done in Florida under the Safe Schools Act; the funding of innovative programs as is being done by the Law Enforcement Assistance Administration (LEAA) in many school systems; and pending federal legislation in the Congress, both in the House and Senate, which deals directly with school security problems.

Crimes in our schools must be recognized, admitted, and faced. As long as the problem continues to be ignored, education will continue to lose.

Joseph I. Grealy
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Security Directors
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IDENTIFYING SECURITY PROBLEMS AND NEEDS

VANDALISM AND VANDALS

It is obvious that some vandalism is malicious and deliberate. More importantly however, there is also some vandalism which is really neither malicious nor deliberate. The end results are the same, to be sure, but the possible solutions to curtail losses are not. Drinking, drugs, broken homes, and today's permissive society with the resultant decline in respect and discipline have all been cited as among the causes of malicious vandalism. Old and crowded buildings, poor or crowded grounds and inadequate building maintenance, failure to understand what really brought about damage to the building or equipment, failure to understand the student's peer pressures, and failure to understand the students' need for some limited privacy are among the possible causes of unintentional vandalism. Broken windows and glass panels, lavatories, equipment, hardware, and graffiti are the most common forms of vandalism of all types. The greatest potential loss from vandalism is arson. Buildings, equipment and supplies, when destroyed by fire, amount to staggering losses. This does not include education time lost or the tremendous administrative burden and cost necessary to handle that period of time when there is no school building, equipment, textbooks and supplies. Heat and smoke detectors, sprinkler systems, burglar alarms, security patrols, outside lighting, replacing broken glass windows with break-resistant glazing materials are all common preventive measures for these losses.

Vandalism involves adolescents and young adults. At this age people are full of vim and vigor, and no little amount of mischief and horseplay. Would we want it any other way? Adolescents like to feel that they can do their own thing, and almost never listen to or follow the "wise" words of their elders. Their problems are just as big and as important, maybe even more, to them, as ours are to us. No one wants a school to look like a jail. Neither does anyone want a school to look like it has been abandoned to deteriorate. Education must, even though there are far more important things to do, and certainly more important reasons for spending the available money, take a long, hard look at vandalism. Vandalism is a fact of life, a cancer in our educational system. It must be recognized for what it is, what it is doing, and agreement must be reached that every appropriate means available must be used to wipe it out.

IMPORTANCE OF THE SECURITY SURVEY

A security survey is an evaluation of a facility or group of facilities to identify actual or potential security weaknesses and the vulnerability of these weaknesses. Such study is a necessary step in the development of a comprehensive security plan for any school or other facility. Since vandalism is a complex problem there is no one simple solution. A few suggested solutions may even not alleviate vandalism and other security problems but instead cause them to worsen.

ADMINISTERING THE VANDALISM PREVENTION PROGRAM

Generally security is an administrative rather than simply a maintenance function since it consists of more than locks, alarms, and replacement of broken glass. There must be written policies and procedures for dealing with vandalism and other related security problems. All concerned should have the opportunity to contribute their ideas to these policies and procedures. Care should be taken to include the entire school staff, including teachers and maintenance workers, parents, students, neighbors, police, firefighters, and local government officials. There should be general agreement on decisions reached, but the final authority must be the school administrator.

There are many ways that we can respond unemotionally, intelligently and effectively to vandalism. No matter what approaches are adopted to fight vandalism, it is generally agreed that the following should be included in the specific plan: (1) Remove and or control items which are readily available on the school grounds or in the school itself and which could be used to vandalize school property. Some, for example, are: stones, bricks, cans, bottles, sticks, fence pickets, shop material, shop tools, trash containers, signs and sign posts. (2) Quickly repair or replace whatever is damaged. If this is not done the so-called "epidemic-effect" will surely happen. If an item is not repaired quickly, another item will soon be damaged, and then another, and another, until an "epidemic" of damaged property and equipment occurs. Anticipate certain types of vandalism and have the maintenance employees and the materials ready to make quick, even if

temporary repairs. (3) Try to understand that a lot of damage attributed to vandalism is *not* vandalism, strictly speaking. Costly damages to schools and equipment could be significantly reduced by preventing the damages from ever happening. How? Remove and relocate, rehand and reinstall more securely, enclose and protect, cover or change, or even eliminate items which experience has shown to be the targets of continual abuse and subsequent damage. (4) Have an adequate, well-run, responsive maintenance program supported from the top. It is essential that the maintenance department be on the alert at all times to seek out potential building or equipment "victims" of vandalism. For example, loose or slightly damaged fixtures will surely succumb to the inevitable pulling, swinging or poking by the hundreds or thousands of pairs of hands and feet which, as if by magic, put the fixtures to the supreme test, survival of the fittest.

As the security survey is being conducted it is necessary to remember the basic fundamentals which comprise an effective security program. One must also remember that conditions over which the school has no control will affect the total vandalism problem. These external forces must be coped with as best they can. However, they must be recognized, at least, and reasonable steps taken to work around, over, or under them. Obviously, the neighborhood, the age, condition, size and type of school, the size of the student body, the quality and attitude of the school administrator and staff, the financial and economic condition of the community, ad infinitum, will all have some effect on the kind and amount of vandalism to the school itself. Also, there will be other damaging effects to the educational process and trauma suffered by students and teachers, as the result of vandalism.

THE SECURITY SURVEY

Before actually starting the survey, one must equip himself with the following essential "tools" including plot and building floor plans, writing pad and pen (or handy, lightweight, pocket-size tape recorder), tape measure, flashlight (for the daytime too!), and camera (for outdoor and indoor pictures). The actual survey should be conducted for both interior and exterior when the school is in session to get a "feel" for where the action is and how the traffic patterns shape up. The school should also be surveyed when the school learning day is over, but when normal extra-curricular activities are taking place. What areas are used? Who is using them? Are they supervised? What areas not being used are accessible? When and how do students leave? Survey in the dark of night after the extra-curricular activities are over. Any activity? Is there enough light so that someone who is up to no good can *easily* be seen, or even better, discouraged from doing any damage for fear of being seen? Survey on weekends, on holidays and vacations. Consider activities brought by seasonal changes.

Take pictures of the school grounds and of the entire school from all sides. Take closeups of equipment and existing conditions inside and outside. When the on site part of the survey is finished the pictures and notes will save having to go back and forth to check out important details which cannot be remembered.

In the course of making the physical survey of the grounds, the outside and the inside of the school, break up the routine by talking with students, the staff, teachers, maintenance employees, surrounding neighbors and business owners. Ask them for their opinions about existing security safeguards, vandalism, improving security, and the like. Many of their comments can be extremly valuable.

Be sure that each piece of security and fire prevention equipment works. Also be sure of its method of operation and function. Ask all the questions necessary for full understanding. Make sure that the sources of this information are knowledgeable and correct.

Here are some key questions and possible solutions to consider for both building exteriors and interiors.

THE EXTERIOR

Ground to roof access possible? Eliminate possible means of access.

Designated play areas too close to building, fixtures, trees, shrubs and lawns so that unintentional damages result?

Areas around school not designated for play, but for any one of a variety of reasons, are used as play areas with resulting damage to equipment, shrubs, lawns, automobiles, etc ...?

Do entry ways which were designed to say "Come in!" during the school day still say the same thing when school is closed? Sliding metal grilles or garage type pull down doors after hours could be the answer.

Is exterior door hardware necessary if the door is only to be used for leaving in an emergency? Are doors in good condition? Do they operate freely? Are glass panels necessary? Are they secure? Are lock latches and bolts protected from attack?

Windows vulnerable to easy entry? Too low? Replace glass with plexiglass or acrylic? Cover glass with screens? Replace large glass surfaces with smaller glass surfaces?

Are walks and pathways functional? The answer may be to accept short cuts and make them formal, paved paths.

Graffiti a problem? Consider refinishing surfaces with material which is easier and cheaper to clean or refinish. Eliminate nooks and light up areas that attract graffiti.

There are countless other items which should be included in an exterior physical survey. Suffice to say that one should consider the land area and the building from the position of a juvenile who:

—Wants to gain entry for illegal purposes or unsupervised and potentially dangerous activities.

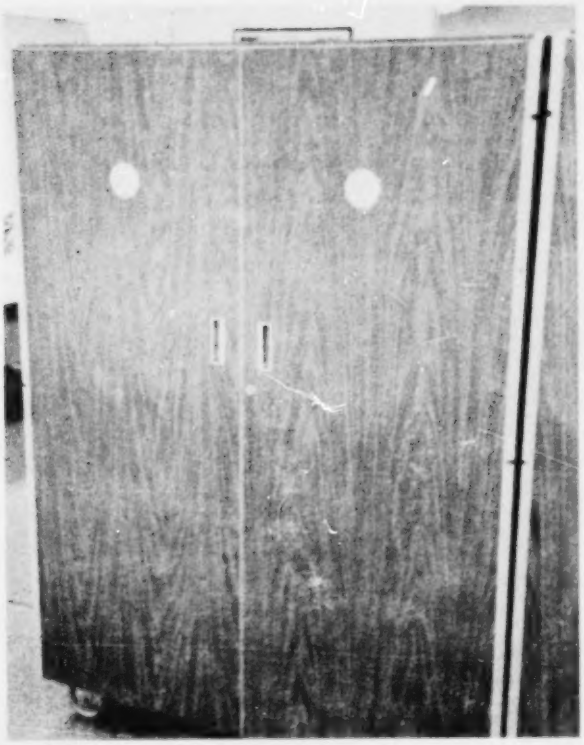
—Merely wants to play in the area and is attracted to the building. Can he easily enter the building with just a little desire and not much else?

—The adolescent who just hangs around the area with nothing really on his mind, but in fooling around with others playing in the area, damages equipment and fixtures.

THE INTERIOR

What are the areas and what kinds of damage take place in the interior? Provide legitimate stu-

dent gathering areas. Anticipate potential damages and remove and relocate equipment, install more durable equipment, enclose equipment, install equipment flush to walls.



Remove all locks which are not absolutely necessary. Examine key control systems but question the need for a master key system. Master key systems are nice to have but may be extremely difficult to justify. Are keys stored in a secure container and are the records accurate and up-to-date? When were they all last inventoried?

Finally, some security equipment can be an aid to the person responsible for combatting vandalism. However, the answer is not equipment alone. In the long run, it is understanding the causes of vandalism and dealing with them administratively, in a positive way.

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PREMISE PROTECTION PLANNING

INTRODUCTION

There are numerous reasons why one or more persons may attack a school or university building. Similarly, the seriousness and dedication with which an attack is made may vary widely. With these considerations in mind, a list of attack levels should be developed. At the same time, architectural design information on new projects or survey data from existing facilities should be listed in their order of vulnerability to attack. Through the process of survey analysis, described in the previous article, a range of attacks, vulnerabilities, and critical security conditions may be conceptualized. It is important to acknowledge that security planning is designed to protect the premises at specific points and against defined levels of attack. Cost-effectiveness requires a decision for each threat level and a clear understanding by the school administration of those risks beyond the design criteria. Protection against the worst-case attack at every facility will not be possible or necessary.

PSYCHOLOGICAL DETERRENTS

School buildings must reflect an image of protected public property. While the preponderance of concern has been directed at physical security considerations, such as the strength of barriers, the effectiveness of automatic intrusion detection and alarm systems, and the preparedness of responsible police and school security teams, there has also been recent interest in the application of psychological/behavioral principles to the design of facilities and security devices. The incorporation of such principles into hardware design and security system development may result in impeding, delaying, diverting, or discouraging unauthorized entry, and if gained, seriously impede an attempt to vandalize or steal.

Considering the great diversity of possible attacks, physical and psychological deterrent features should be designed into the plan to deal effectively, yet discriminately, with the entire range of threats. Hence, the child or thrill seeker attempting to break a window should ideally be deterred by passive, non-harmful means; while a group attempting a worst-case threat must be deterred by more positive means. The greater the threat the more efficient the physical and psychological deterrents should be.

GUARDS

Many security officers automatically think of guards when they think of security. Guards are generally assigned to fixed posts or have a patrol route assignment. Guards are the most expensive protection measure and yet used alone do not insure complete facility security. Developing the security plan for a facility, particularly a large university, requires law enforcement response to maintain order and respond to alarms. At one time, the lo-

cal police were relied on exclusively to provide this function. In many locations today the local police cannot respond in time or numbers to be effective. The school is obligated to supplement local law enforcement with their own guard force. Present economic restrictions on local governments will further reduce the availability of both police and fire protection.

There are two distinctly different types of guards that should be utilized at learning institutions. The Security Guard has responsibility for monitoring the building, seeing that policies are followed, answering questions, and assisting people. Generally they have a soft uniform and are never armed. These guards are a physical and psychological deterrent between a potential perpetrator and a crime. The other classification of guards is a Law Enforcement Guard who responds to an emergency, or crime. These two types of guards should have separate organizations operating under different policies and procedures.

The most common faults observed in guard operations are the lack of written instructions, adequate supervision, and an unrealistic pay scale.

BUILDING AUTOMATION

Computer applications now available can provide automatic control and monitoring of mechanical and security systems. Systems may be designed to control heating, air conditioning, lighting, door locks, fire detectors, intrusion detection, and other forms of access control simply by adding the desired elements to a basic system. When designing new facilities the entire combined systems usually cost the same as a conventional heating-air conditioning system. Another way to look at this is the security functions are obtained without major additional cost.

ACCESS CONTROL

Statistics indicate that about sixty percent of crime is committed by people who are not authorized to be at the location of the crime. The open to the public policy allows access for the criminal as well as students, staff and the public who are there for worthwhile purposes. How to close buildings and grounds to the general public will vary depending on the site. There is no way the main campus of The University of Tennessee could be fenced because it is literally part of the City of Knoxville. Similar conditions exist at many institutions located in America's cities. There are a lot of suburban institutions that could be closed with no difficulty. The change from open to closed is a radical departure from conventional accepted practice and will come slowly. It is a security procedure we must plan for in advance and implement with appropriate public relations.

The Federal Government has already changed most Federal buildings from open to closed. The Pentagon is one example. In the 1960's there was absolutely no control. One could park in any area and walk in any door. Today there are only two entrances. Every visitor receives a badge at the door and every briefcase is checked. The Federal Government is not alone in requiring inspections at entrances. Practically all museums have restricted access to one entrance. Even churches which used to be open around the clock, are now closed except for services.

We are dealing with a different generation today. The aspect of crime has placed new legal requirements on the institutions to provide a minimum, but prudent, level of protection to all who enter on the property. When a decision is made to close the premises there are many considerations which must be compatible with overall plans. Included will be the size of the guard force, controlled gates and entrances, vehicular control, adequate lighting, and a method of personnel identification.

At this point in time most educational institutions are concerned with access control. How do we keep the people out who have no justifiable reason for being there? How to admit those who are authorized to be admitted? Unfortunately, after years of security planning experience, industry has yet to develop an easy solution to this problem. Access control must be one facet of a total security plan.

CARD READERS

Guards, usually students with a badge, are frequently used to inspect ID cards at mess halls and dormitories. Several large institutions have installed automatic card readers and many additional institutions are evaluating proposals. Admitting large numbers of people in a short time period will require several card readers at one point. In many cases, it is necessary to maintain a guard at the controlled location to attend to any rejected cards and prevent personnel from bypassing the turnstiles.

One limitation to these machines is that they admit the card and not the person holding the card. If a card falls into the wrong hands then the wrong person is admitted. There are a few systems today that attempt to identify the person. These systems are expensive and often reject those who should get in as well as those who should be kept out.

The food services department here at The University of Tennessee has such a card reader system to control admission of meal plan participants to the dining hall. During peak dining periods, use of the machine must be temporarily discontinued because there is such a high rejection rate of valid card holders. Those who are rejected must then be admitted by a cafeteria employee. The waiting line grows so long that it would not be possible to serve all the patrons in a reasonable amount of time if each one had to use the card reader.

DOOR CONSTRUCTION AND HARDWARE

In the typical door, glazing is located in such a manner as to allow unauthorized access simply by breaking the glass and opening the lock. Lexan glazing will solve that problem since it is break resistant. There is one problem with all of the polycarbonate glazing, it will burn. In one Prince Georges County school in Maryland the kids discovered this condition and gained access by burning a hole in a lexan glazed door with a torch. Lexan may not solve all of the problems but it certainly will stop the broken glass vandalism.

In many parts of the world, at the end of the business day, merchants close shop by lowering a solid steel shutter across the front of their stores. Slowly we are adopting this effective method in this country. When shutters are used to cover the entrance to a school very little vandalism can be accomplished.

Architects continue to put handles and lock cylinders on all doors whether they are needed or not. Fire exit doors and others not generally used as normal entrances do not need exterior hardware. When the hinges are also concealed the security of the door is significantly improved.

Typical door hinges are often weak points which can be avoided through the use of security hinges. The major difference between a security hinge and any standard hinge is that a pin on the door side protrudes into a hole on the frame side when the door is closed. Even if a saw is used to cut the butt off the hinge, the interior security pin holds the door in place. Concealed hinges are also secure but are more costly and may not last as long if the door is in constant use.

The electric lock is another possible consideration. It is possible to remotely lock all exterior doors from a central console. Should any door not lock, the console will indicate its location. In the event of fire, the locks are interlocked with the fire alarm system and will open automatically as required by safety codes.

One could take almost unlimited time and space to discuss door design. With coordination between the architect, the local code authorities, security consultant, and hardware consultant, proper solutions can be developed. When security provisions are not provided the typical response is to put chains and padlocks on exit doors. Now all safety codes state that one cannot lock exit doors so as to prevent emergency egress when the building is occupied.

TELEVISION

On large university campuses television has been a cost-effective security aid. Locating closed circuit television cameras near entrance doors equipped with electric door strikes allow guards to admit authorized persons from a remote location, usually a security console. Unfortunately, these cameras are frequently improperly installed. A common mistake is locating the camera at a low level accessible to the average person. It can then be vandalized or stolen. Cameras should be locked up in a vandal resistant cabinet and the wires concealed or run in flexible conduits to provide protection. Another common problem is placing the camera where there is insufficient lighting. Standard cameras require at least 10 foot candles of light distributed evenly over the entire area.

When television cameras are located at entrances it is

desirable to place the unit inside the secured area where both the equipment and people can be protected from the elements and where sufficient lighting is generally available.

One often sees television cameras outfitted with pan and tilt devices and zoom lens. Security guards use these to look at whatever is most interesting to them, such as pretty girls going down the street, rather than the areas of potential security problems. Fixed cameras are more cost-effective and limit the image to the security condition that the guard is expected to monitor.

INVENTORIES

Even if the building has the best security measures designed in, theft and arson may still occur. That is why most schools and businesses carry insurance. It may come as a surprise, to learn that a great many schools do not have an inventory of their equipment. An inventory is an absolute requirement to aid in the recovery of stolen items or to receive restitution from the insurance company. School property is just like any other commercial property. It is impossible to prove ownership of a typewriter which does not have a serial identification number, even if it is the same model which was stolen. Each item of property should also be tagged or engraved with an identification number unique to the school. There have been several attempts by the school security community to develop a universal coding system. One system advocates using the school's zip code and initials.

The requirement for a written and up-to-date inventory should be a matter of policy. New equipment should be marked and the inventory should be corrected each time equipment is acquired. A physical inventory count should be made at least once each year.

CONTRACTING

Public schools are generally required to engage in competitive bidding to purchase equipment and services. Because the award is made on the basis of the lowest price, it is essential that all bids are for identical systems and equipment. Today there are usually several qualified bidders and many unqualified bidders on every project. Complete and accurate contract specifications and drawings are essential to assure that the school receives a workable security system.

It is often tempting to let security equipment salesmen or the purchasing department write the specifications. Most salesmen do what they are paid for, i.e. sell their products. Neither the purchasing department nor the security department should be expected to have the specific detailed engineering knowledge necessary to design and specify a complex security alarm system. In most cases, there is no previous experience within the school system that can be used as a guide. If the institution does not have in-house expertise it is recommended that an independent security specialist be engaged to design the system and develop the specifications.

The security market today produces hundreds of products that are sold by thousands of dealers that may or may not be of value in a school security system. The problem is selecting the proper protection devices for specific security concerns while avoiding the unpleasant position of spending money for protection which will not be satisfactory.

SUMMARY

In summary, the security survey should be used to identify weak points in the school's security program. Typically, exterior doors are likely to present the most problems. Hardware is available to enable exterior doors and other potential access points to resist forced entry. Fire and intrusion alarm systems are excellent deterrents and may be integrated with other control systems. Guards are expensive but may be necessary as part of the security program. Finally, comprehensive equipment inventories are necessary for recovery of lost or stolen goods and should be a mandatory requirement in all school districts.

Ralph V. Ward, President
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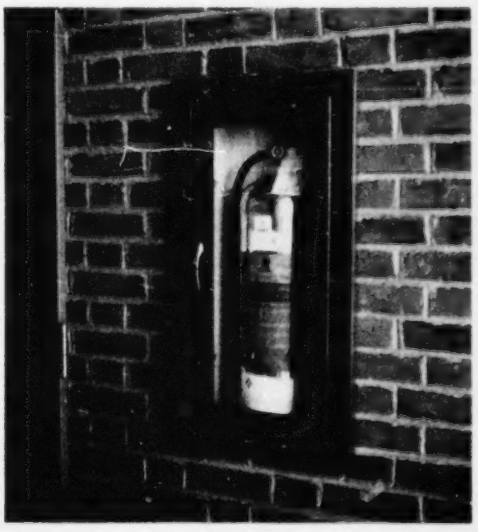


THE ARCHITECT AND SECURITY

We are all aware of the staggering losses sustained by school systems throughout the country through vandalism. Acts of vandalism are committed by students in attendance at schools and outsiders who may be unwanted intruders or invited spectators at athletic and other public programs. Their acts may be intended to cause harm to the school facilities, but casual acts of misuse not deliberately intended to cause destruction may have the same results. It appears that the larger the metroplitan area, the more severe and damaging are these attacks. School vandals are both male and female with almost as many pre-teen and teenage girls being apprehended as boys. A school system can ignore the problem, live with it, or take action to reduce its effect and even eliminate the potential for such losses.

ALARM AND SURVEILLANCE SYSTEMS ARE NOT A TOTAL SOLUTION

In recent years sophisticated anti-intrusion alarms systems have been developed which are activated for use only after activities within a group of buildings, a building, or a part of a building have ceased. Even more sophisticated closed circuit television surveillance systems have been made available which have the capability of being used independently or in conjunction with the anti-intrusion alarm systems. These systems, to detect unauthorzied entry or activity, obviously have to be monitored. When an alarm is tripped or an unlawful act is observed on the television monitor, an immediate response by people, either guards or police, must be initiated. This requires a rapid movement into the area being violated.

The cost of such protection will first, depending upon the equipment employed in these two systems and the area being protected, determine the needed amount of capital outlay. This type of equipment must be installed by experts in each particular field. The installation cost usually amounts to approximately five times the cost of the equipment. Second, these systems are of little deterrent value by themselves. In order to be effective in the property protection role, each must be monitored and a response capability must be immediately available. This means people, at least two of them on duty at all times the systems are in operation, whether the systems are monitored locally or from a remote location. Third, it is necessary to establish communications between the persons monitoring the systems and the person responding. This means radios, which are also extremely expensive and, in all probability, will also require that the patrolman responding have available some type of transportation.

IMPORTANCE OF FACILITY DESIGN

Intrusion alarm and surveillance systems provide protection during the time schools are not in session. What about vandals pursuing their particular pleasures while the education facility is in operation, either on a full or a reduced evening schedule? Vandalism, the destruction and damaging of property, in the public school system, can be substantially reduced by carefully planning building design prior to the commencement of construction. Having facility design first consideration in the protection plan, not only can reduce the cost of vandalism, but dramatically reduce the cost of the inevitable protection plan. Alarm and other such systems must not be considered as the total answer to the reduction of vandalism. The measures initiated during the planning stage are comprehensive and start beyond the walls of the school facility. While several authors including the present one, have written about the importance of security in general facility planning, Gordon Irwin, Associate Director of the School Planning Laboratory, recently conducted a nationwide study of the possibilities for school facilities and much of the following is based on his study.

SITE SELECTION

Site selection for school facilities is extremely important, just as important as site selection is for a fire house, police station, shopping mall. Here are some things to look for:

(1) Consider the environment of the potential site. The psychological outlook and conditions existing in the immediate area must be considered. The economic status of the area must receive consideration as well as the present and past crime rate as it relates to attacks against both persons and property.
(2) Plan considerable distances between academic facilities and athletic buildings, and athletic and play fields.
(3) The overall site location should provide for adequate visual observation of all buildings and facilities by

outside patrols or closed circuit television surveillance systems.

(4) The site selected should be remotely located from high-speed approaches and away from public throughfares to limit opportunities for physical attacks as compared to facilities bordering on or divided by public streets.

PERIMETER BARRIERS

Perimeter barriers erected during the construction phase will substantially reduce costs in any cost-plus contracts because a barrier will present a physical and psychological deterrent to innocent entry. This barrier also provides an effective means of directing the flow of personnel and vehicles, establishes control points and provides for an effective and economic employment of security forces. In addition, it is a physical deterrent against unauthorized entry.

Perimeter barriers at a fixed price construction site should also be erected for the reasons already stated since they will be instrumental in meeting deadlines. Often when cost overruns occur on fixed price contracts, security considerations or security plans are reduced because it is almost impossible for a contractor to shortcut on the fire codes, the safety codes, and the building codes. However, security codes are generally non-existent and since doors, windows, locking hardware and other peripheral equipment and construction are the last items installed or constructed, they tend to be at the mercy of the project purchasing agent's pencil.

After construction is completed, consider either industrial chain link or masonry barriers for the protection of parking lots, athletic fields, utility installations, and service areas. In many instances, cleverly planned building construction including sidewalks and masonry obstructions (walls or screens) can establish effective foot and vehicular control without being objectionable or even obvious in some instances.

DRIVES AND PARKING

Parking areas and intra-facility roadways are most important, not only in establishing the overall protection plan, but are a prime consideration in reducing the risk of destructive attacks from outside. Control points or moving patrols which are properly planned at junction of the streets or patrols through the streets and areas will reduce the calculated risk assumed whenever there is vehicular or pedestrian movement.

WALKWAYS

Walkways should be planned to facilitate direct and logical access to specific areas and building entrances. Walkways should be planned whenever possible away from buildings and, rather than being constructed parallel with the building, should be constructed between buildings with the spoke or spider web configuration.

ATHLETIC FIELDS

Athletic fields should be located so buildings do not form a part of the perimeter and where a perimeter barrier of chain link construction would not be objectionable. Spectator parking should be planned to ensure that direct access from the parking area to the seating arrangement is possible. Access routes between the parking area and stadium stands should be quite clear and planned so that they do not necessitate cross-pedestrian traffic. Similar planning must be applied to the entrance and exit vehicular arteries. Deviations from the prescribed pedestrian routes by individuals or groups should be obvious to the security force. Scoreboards, time clocks and electronic display boards should be located as high as possible above ground level.

EXTERIOR LIGHTING

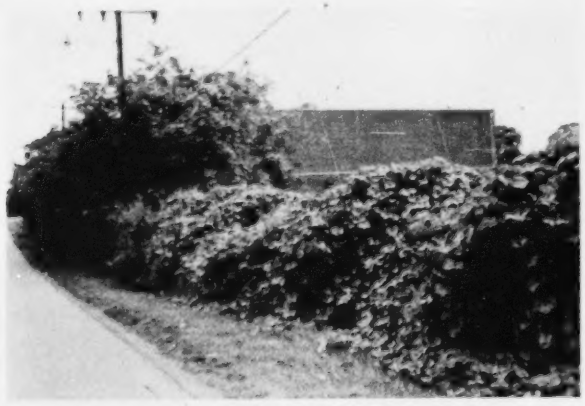
Exterior lighting must be considered in planning the overall protective plan. If a closed circuit television surveillance system is planned, sufficient illumination to ensure adequate observation of outside areas must be provided. Light fixtures should be no less than fourteen feet in height and the luminaire should be protected by a globe or shield manufactured of polycarbonate or other impact resistant material. Walkways, roadways, parking lots, building doors and any other area must be luminated. Outside light fixtures installed on buildings should be a high as possible, flush mounted, and protected by impact-resistant material. Light fixtures, as a general rule, should illuminate the horizontal rather than the vertical. Exterior lighting should not be mounted at or near ground level and should be automatically controlled. Either sodium or mercury vapor lamps should be utilized. Finally, lighting controls should be inside the facility and key controlled.

INTERIOR LIGHTING

Inside lighting will depend a great deal upon the decor of a particular room or area just as the intensity of illumination will be dictated by the activity in progress. Lighting of hallways, corridors, stairwells, rest rooms, student service rooms and areas commonly used by the students and the faculty population should be accomplished by flush or near-flush wall or ceiling-mounted fixtures protected, again, by the impact-resistant material. The fixtures should be high enough to thwart all but the most determined vandal.

LANDSCAPING

Landscaping is probably the most controversial subject that can be discussed in any security pre-planning conference. Nevertheless, plants, shrubbery, trees, and hedges can obscure the view of cameras and people.



This cover provided by vegetation can be used to advantage by the intruder. Some considerations in planning may include (but are not limited to) the use of thorny shrubs or bushes (such as pyracanthea and certain varieties of holly), along buildings and along walkways to channel or prohibit foot traffic. No tall trees or trellisses on or near buildings that could be used for surreptitious entry into second floor levels should be planned. Attempts should be made to keep doorways clear of growth that can be used as cover. Where trees and shrubs cannot be avoided, attempts should be made to increase the protective lighting to deter use of this material as cover by an intruder.

GENERAL BUILDING DESIGN

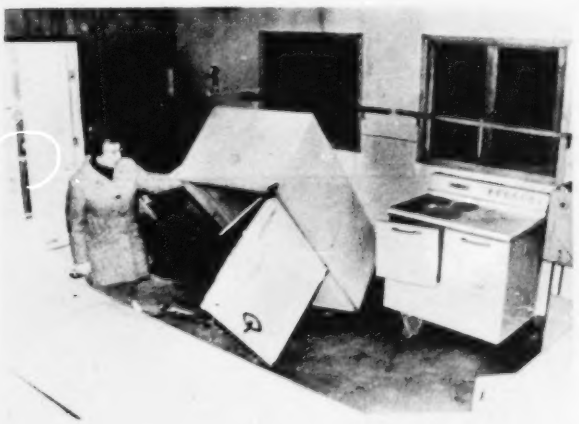
General building design should include, but is not necessarily limited to, the following considerations:

(1) Finished wall surface in common corridors, restrooms, and athletic building interiors should be of a nearly non-porous material which resists writing material except, perhaps, grease pencils and paint that should be fairly easy to remove without damaging the surface.
(2) Minimize ornate, non-functional items and building material to reduce replacement costs if it becomes necessary.
(3) Wherever possible, have the public use facilities in gymnasiums, auditoriums, pools and libraries on the first floor with entrances clearly visible throughout the interior and exterior areas.
(4) Locate business and administrative offices near building entrances to assist in supervision of activities at these points and to insure monitoring of ingress and egress.
(5) Install locking hardware on all interior doors.
(6) Design exterior walls to deter easy access to the building roof.
(7) Use hard-mar resistant wall materials.
(8) Avoid any exterior wall mounted fixtures which might be used to assist in climbing the building.
(9) Avoid walls and half walls within eight feet of any building.
(10) Covered walkways near buildings should be avoided or difficult to climb if this type of construction is necessary.
(11) Avoid false building fronts or wide roof overhangs.
(12) No transoms should be installed on any interior or exterior door.
(13) Avoid skylights.
(14) Keep the number of peripheral windows to a minimum and consider longer (higher) windows and sacrifice width. Ten inch wide windows will normally prevent entry through these peripheral openings.

(15) Provide substantial locking devices for movable windows and any glass sliding doors.
(16) Keep window construction at least forty inches from any peripheral door.
(17) Avoid windows in gymnasiums except when they can be constructed at an extremely high level.
(18) Consider impact-resistant or polycarbonate material for windows in libraries, fine arts buildings, laboratories, research projects, duplicating machine rooms and other critical and/or vulnerable areas.
(19) Protect windows at lower levels by constructing a decorative masonry screen about a foot from the building to offer effective protection yet permit natural light inside.
(20) All windows should be glazed from the interior.
(21) Attempt to keep windows at least six feet from ground level and without sills that could be used by an intruder to gain access.
(22) When screws are necessary in window installation, use only "one-way screws."
(23) Plan computer areas above the first floor level, away from every day traffic, and consider windowless rooms.

DOORS

The peripheral doors of a building are obviously intended for use in entering or exiting that building or portion of the building; however, they are also intended for the use of only authorized personnel. Yet, they are more often used to gain surreptitious entry than are windows or skylights. Normally, unauthorized entry is gained merely by opening the door and walking in. Therefore, door security starts with the door locking schedule that is executed by an individual or group of individuals that have a sense of responsibility and can be depended upon to secure the doors on the established schedule.



It is quite possible, and this author has seen over 120 doors locked and unlocked at specific times by computer, that locking can best be accomplished through the use of a number of solenoid and electric strikes, electromagnetic door holding devices and electro-magnetic locking devices so that the locking devices can be electronically operated and/or electronically released.

Some features desired in peripheral and other high risk doors are:

(1) Door construction should be of solid wood rather than hollow core.
(2) Door hinges should be concealed with inside hinge pins.
(3) Avoid exterior doors to restrooms if there is an interior door to that restroom as well.
(4) Avoid recessed doorways or vestibules located outside the doorway.
(5) Design no windows in any peripheral door.
(6) Sliding doors should be minimized because they are extremely easy to defeat and require great expanses of glass.
(7) Roof hatch doors should be constructed of metal, fastened to a metal frame with cross members to resist twisting.

Satisfactory locking devices on doors are a necessary step in securing the building and building area against intrusion by the vandal.

(1) No lock in the knob combination should be used. If such a device must be used, it should be supplemented with a double key-way dead bolt type lock also installed on the door.
(2) Where the degree of security demands more protection a vertical dead bolt should be used.
(3) Use padlocks on such areas as roof hatches.
(4) Use locks with at least six pin tumblers.
(5) Removable core locks provide rapid lock changes and economy in changing of the locking system.
(6) Consider card-operated electronic locks in high risk areas such as libraries, computer areas, telephone equipment rooms, duplicating room areas, etc.
(7) Any door to a computer or telephone equipment area, as an example, should remain locked at all times. Mechanical cipher locks offer ample keyless locking device protection for small one door operations.
(8) Combination padlocks should have serial numbers removed.
(9) The use of bar locks on interior doors to high risk areas should be considered when personnel safety

permits.

(10) Secure panic hardware on double doors by locking the doors together with a chain or cable when these areas are void of personnel.

MECHANICAL ROOMS AND UTILITY SYSTEMS

Mechanical rooms and utility systems must be considered for increased protection.

(1) Air conditioning and ventilation duct covers should be secured with one-way screws.
(2) Conceal water and steam lines rather than installing them overhead.
(3) Install sturdy lockable metal grills or gates to secure utility tunnels.
(4) Secure all telephone and electrical switch junction or fuse boxes with sturdy locking devices (use hasps and padlocks rather than rely on the lock installed by the manufacturer).
(5) Secure storm sewer covers, manhole covers and vents at ground level and such openings in building side walls within eighteen feet of ground level.
(6) Protect all thermostats with metal, not plastic lockable covers. Conceal thermostats wherever possible. Thermostat locations may be recessed to offer better protection.

INTERIOR WALLS AND CEILINGS

Interior walls and ceilings are often the first areas where vandalism occurs, particularly in common corridors, hallways and public use buildings or areas. Rest rooms are frequent targets for the vandal at any time of day or night.

(1) Use no fabric or absorbent material to cover walls in corridors, hallways, etc. As an example, flocked wall paper is easily damaged or destroyed and extremely expensive to replace.
(2) Plan use of hard glazed epoxy surfaces throughout common areas.
(3) Use no sheetrock, wood or simulated wood paneling in exposed high traffic areas.
(4) Concrete block and cement construction covered with acrylic, ceramic or glazed clay tile should be used in all rest rooms, kitchens, vending machine areas, and laboratories.
(5) Avoid suspended acoustical ceilings and carpeting in rest rooms, kitchens, and other such areas being discussed.
(6) Apply only flame-retardant paints on combustible surfaces.

REST ROOMS AND LOCKER ROOMS

Here are some ideas to consider for these areas:

(1) Fixtures in locker rooms, rest rooms, and the like should be of heavy-duty construction and have separate keying systems.
(2) Install partitions in rest rooms with floor and ceiling mounts or at least within a foot of the floor and ceiling. Screws of one-way design or those which require special tools for removal must be used.
(3) Consider only self-closing faucets and concealed plumbing fixtures throughout the rest rooms as much as possible.
(4) Recessed shelves, electric hand dryers, sanitary napkin dispensers and fire resistant commode seats should be installed.
(5) Locate utility cut-off valves or switches for each rest room or shower area in protected locations to facilitate immediate damage control should the need occur.
(6) Plan fewer rest rooms with larger capacity wherever possible rather than more rest rooms with less capacity in each.
(7) Use stainless steel mirrors in place of glass or plastic.
(8) Consider floor mounted or recessed urinals and only floor mounted commodes. Plan floor drains and scuppers in each rest room area with sufficient capacity to effectively handle flooding from ruptured or damaged water lines.
(9) Unless a special need exists, expose no electrical receptacles in rest rooms. If receptacles are necessary, cover them with a lockable metal cover and recess the receptacle in the wall.
(10) If containers for combustible trash will be supplied in any rest room or other common use area, provide only the flame retardant type.

The subject of building design preplanned for security cannot, of course, be covered in the necessary detail in this short space. As an example, the use of bucket type seating permanently fastened together and sturdily anchored, rather than benches will discourage lying down or sleeping; securing picnic tables to the ground; avoiding loose or easily removed ground cover material for patio surfaces, walkways, etc; roof mounted flag poles, rather than ground level mounted ones; exterior doors; and literally hundreds of other small details that should be considered in the formulation of building design to increase the protection of the building, contents, and the safety and security of the personnel who use the building, have not even been discussed.

SCHOOL SECURITY SYSTEM PLANNING

It is the intent of this article to provoke thought in this area which might be valuable for future school construction. Incidentally, the security industry is finally organizing to develop building codes for security which will be offered to public officials and the architectural and construction industries. Hopefully within a few years, these security codes will be enforced as effectively as are today's fire and safety codes.

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Other articles in this booklet have made clear the extent of school vandalism and some possible responses. A school system must define its vandalism problem and then develop programs for protection of personnel, facilities, and equipment necessary to meet local needs. A potential comprehensive response to the problem is briefly outlined here for the school district about to develop a security programs.

PERSONNEL PROTECTION

In the Broward County, Florida, school system there are 140,000 students housed in 156 schools. They and the teaching personnel are protected by eight Investigators and twenty resource people located in each of the twenty high schools.

RESOURCE PERSON

The resource person investigates all incidents at the high school to which he is assigned and furnishes a report to the principal for determination of any necessary administrative action. The appropriate law enforcement agency is apprised of any criminal act but unless such an act is of a very serious nature the police usually accept the school's handling of the matter. The resource person implements programs to effect coverage of potentially dangerous areas such as hallways, cafeteria, parking lots and locker rooms. He involves students and school personnel in prevention programs. He establishes a close relationship between the school and community groups such as the police, juvenile authorities, the judiciary, parents and family services.

A good resource person should more than pay for himself. Last year in one high school a resource person, assigned to that school, recovered stolen property during the year which was valued at twice his salary. Aside from this, he handled all the other security problems, such as assaults, disturbances, bus incidents, bomb threats, drug abuses...matters on which no recovery value could be estimated. For example, he had a bombing at his school which he solved the same day it occurred. This led to the student admitting to seven other unsolved bombings in the county, outside of school jurisdiction.

INVESTIGATOR

Eight investigators are also used, two in each of the four geographic areas. Each works closely with the respective area superintendent. They handle all security matters outside the high schools and serious matters within the high schools. If an attempt was made to remove a resource person or an Investigator there would be in all cases a very upset principal or an area superintendent to deal with.

A job description for an investigator in Fort Lauderdale reads as follows:

Two investigators are assigned to each of the four areas. Among their duties they:

Establish liaison with school personnel and with representatives of law enforcement agencies assigned to that district.

Respond to requests for handling of criminal and administrative violations of school rules and regulations; develop facts and make them available in report form to the school and, if necessary, to law enforcement personnel.

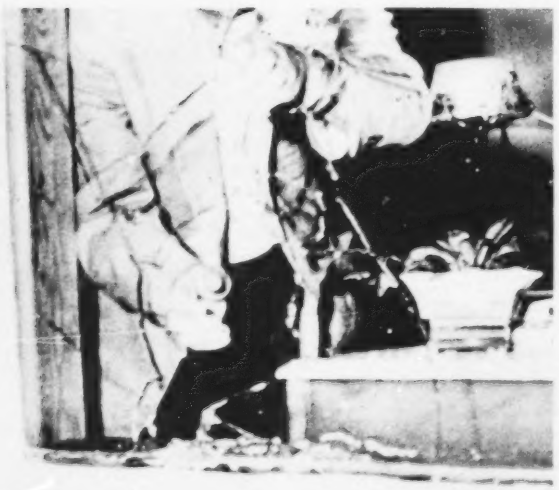
Investigate matters pertaining to assaults, vandalism, theft, arson, personnel problems, bombing matters, disturbances, drug abuse, extortion and bus incidents.

Ascertain identity of individuals responsible for such incidents and follow up on appropriate administrative, and or, criminal action.

At the request of school personnel, survey facility and student problems with a view towards alleviating problems of a security nature.

Conduct investigations with a view toward recovery of stolen property and effect restitution in cases of destruction and damage to school property.

Attend meetings and workshops, with school personnel, with a view towards preventing school security problems.



Plan and advise officals in the handling of social and athletic events so they will be conducted in an orderly and enjoyable fashion.

FACILITY AND EQUIPMENT PROTECTION

Facilities and equipment are obviously very valuable and very necessary to the educational process. In the Fort Lauderdale school system with 140,000 students, facilities and equipment are valued at over 253 million dollars.

The crimes affecting facilities and equipment are mainly vandalism, theft, arson and bombings. The annual cost throughout the country last year for these losses was estimated at nearly six million dollars. Facilities and equipment are most vulnerable during off-school hours and therefore the best protection may be a good alarm system.

There is no simple solution and there are numerous types of alarm systems. About fifteen years ago law enforcement became very excited over the thought that alarms would solve all problems of breaking and entering. People were urged to alarm their facilities with police agency monitoring for any intrusion. The police attitude has changed mainly because of false alarms. Ordinances have been enacted throughout the county imposing fines for false alarms and the police in some areas have the authority to order alarm systems removed if the false alarms persist. If a school system has no one in the system knowledgeable about alarm systems, someone should be brought in to advise as to what is needed and how to best purchase it.

While security should be of prime concern in the planning stages of all new construction it is often possible to alter existing facilities. Many districts have had success with the following program to develop less vulnerable facilities through architectural changes including: (1) Exterior lighting systems; (2) Less windows and use of lexan, plexiglass or fiberglass; (3) Access limitation; (4) Eliminating hidden areas; (5) Fencing; (6) Replacing obsolete and worn exterior door hardware; (7) Replacing worn out wooden doors with steel doors; (8) Eliminating low roof designs which allow roof access; (9) Eliminating court areas not visible from the exterior.

Other important approaches to minimize vandalism include: (1) Night and weekend patrols (2) Clearly marking equipment as school property; (3) Removing and publicizing the fact that all money is removed from safes, vending machines, etc.; (4) Staggering of custodial shifts or utilization of contracted cleaning services during non-school hours; (5) Making juveniles and their parents fi-

nancially responsible for acts of vandalism; (6) Repairing damaged areas as quickly as possible; (7) A police-school precinct whereby an office at the school is made available to the local law enforcement agency where an officer can type up his reports, etc.; (8) A beautification program utilizing students, through their ecology and horticultural clubs, making them proud and conscious of the image of their school; (9) Utilization of night and weekend patrolmen in the most vandalized schools under manpower council funding.

SECURITY PATROLMAN

Regardless of the defenses selected for protecting physical facilities it is necessary to have an after school hours force which can be depended upon to patrol facilities and respond to break-ins and other burglaries. In many areas the local police will be sufficient. In others it will be necessary and economical for the school district to operate its own patrol force. Here is a typical job description for such a patrol force member:

Patrolmen are utilized during night hours and weekends with a view to precluding vandalism, theft and arson by intruders on campus during non-school hours.

Among their duties they:

Maintain surveillance on those problem schools in their assigned area.

Keep apprised (by security reports) of those schools experiencing vandalism and thefts; make spot checks during night hours and on weekends of these schools.

Check schools to ascertain whether they are securely locked and lighted.

Submit written reports to the security director and the principal of the school when deficiencies are found in security in said school.

Notify appropriate law enforcement agency when suspected illegal intrusion of school is detected.

At the request of the director, conduct surveys and submit recommendations with a view to alleviating problems of a security nature.

EDUCATION IN THE SCHOOL SECURITY PROGRAM

A security program should be more than guards, alarm systems and other facility defenses. Educational programs can be developed to reach students throughout their schooling. The Fort Lauderdale Program is divided into three levels consistent with the District's elementary (grades K-5); middle school (grades 6-8), and high school (grades 9-12) organizational pattern.

Kindergarten through fifth grade, ages five through ten, are stages wherein lasting impressions can be made. In 1975 a pilot program was conducted in five elementary schools based on a philosophy of early identification. This is done by identifying learning problems at an early age so that they can be corrected before the student gets behind to a point where he can never catch up, and as a result becomes disinterested and eventually disruptive. The discipline in these schools is excellent and the achievement is very gratifying. The school board was so impressed they voted to expand the program to all elementary schools.

Middle School students, ages eleven to thirteen are a group of in-betweens. Strong school principals can usually control them during school hours, however, during non-school hours this age group is probably responsible for most of the malicious vandalism. Programs to impress on them the seriousness of such acts are probably the best resource. In Florida this year a law was enacted which makes the child responsible for such acts. The judges have been assigning them to afternoon and weekend cleaning duties to pay off their debts to society. It has had a very sobering effect.

The age range among high school students is fourteen to eighteen and it is very difficult to change established attitudes at that age. Therefore, on the scene treatment, as is done by Fort Lauderdale's security resource people, is required. The student with negative attitudes can be identified and placed in alternative schools. However, alternative schools cannot be allowed to become dumping grounds for unwanted students. Unless these students can be turned around we will only create unwanted grownups and there are enough of these in our jails now. Alternative school programs must identify the student's problems including physical, psychological, curricular or environmental. The program must treat the problems to hopefully get the student back in his own regular school as a constructive individual capable of controlling his behavior in an acceptable manner.

FUNDING THE SECURITY PROGRAM

Recognizing and admitting our school security problems is one thing but finding solutions for them is another. Regardless we must all face up to the fact that a good school security system costs money. But if it is a good system it should more than pay for itself by directly saving money and, more importantly, in guaranteeing a safe and secure educational environment.

There are sources of funding other than local school funds. In Florida the Legislature enacted the Safe Schools

Act, the first in the country, which provided funds for school security based on the student population.

The Congress has held various hearings regarding crime in the schools with a view towards enacting federal legislation. The Juvenile Delinquency Act of 1975, which was introduced by Senator Birch Bayh and passed by the Congress, provides for programs in elementary and secondary schools to divert young people from the juvenile justice system. This act is being implemented by Law Enforcement Assistance Administration through the respective Governor's Criminal Justice Councils throughout the country. These task forces are now in the process of considering various programs for funding. Right now the emphasis is definitely on crime prevention through identification and correction of students who are in our schools every day. The Law Enforcement Assistance Administration has funded various school security projects mostly where there was some law enforcement involvement. However, that agency is becoming more and more involved directly in school security. Manpower council funds are being used by various school districts to finance school security personnel.

In early February, 1976, in Fort Lauderdale a group met to plan a self-defense program in the high schools. The district planner was in the group and he urged the group to submit a grant request to deal with all phases of crime in the schools. He pointed out that millions had been poured into programs that were ineffective and that the attitude was definitely towards the prevention of crime, particularly among young people.

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Durable playground equipment will discourage vandalism.

Provide adequate well-marked parking areas. In northern climates, rectangular lots facilitate snow removal.

Construction sites should be fenced to keep unauthorized personnel out.

The School Planning Laboratory assists school systems, colleges and universities, local, state, and national agencies, industry, private planning and consulting firms, and foreign governments with FEASIBILITY STUDIES, CURRICULUM DEVELOPMENT, FACILITY PLANNING, RESEARCH, SITE PLANNING AND DEVELOPMENT, FINANCE, IN-SERVICE TRAINING, MAINTENANCE AND OPERATION, INFORMATION.

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